

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* JOHN S. HARCHANKO

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Appeal 2009-2036  
Application 10/665,530  
Technology Center 2800

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Decided:<sup>1</sup> March 27, 2009

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Before KENNETH W. HAIRSTON, ROBERT E. NAPPI,  
and ELENI MANTIS MERCADER, *Administrative Patent Judges*.

HAIRSTON, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 15 to 27. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm-in-part.

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<sup>1</sup> Any applicable time period for the Appellant(s) to take further action in this case, such as the time periods proscribed by 37 C.F.R. §§ 1.304 and 41.50(b), begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

We will sustain the anticipation rejection of claims 15, 16, 20 to 22, 24, and 25, reverse the anticipation rejection of claims 18 and 23, sustain the obviousness rejection of claims 17 and 26, and reverse the obviousness rejections of claims 19 and 27.

Appellant has invented a multi-optical element device in which a recess in a substrate of a mounting system receives a reference optical element, and at least a first optical element is attached to a predetermined structure of an etched structure in the mounting system (Figs. 5B and 7; Spec. 7, 8, 13, and 14).

Claim 15 is the only independent claim on appeal, and it reads as follows:

15. A multi-optical element device comprising:

a reference optical element;

a mounting system, wherein said mounting system is formed by etching substrate(s) to form a recess to receive the reference optical element, where said recess at least partially conforms to the shape of said reference optical element, and where said reference optical element is attached to said recess in said substrate; said mounting system contains etched substrate(s) forming etched structures upon which optical devices can be attached; and

at least a first optical element attached to a predetermined structure of said etched structures.

The prior art relied upon by the Examiner in rejecting the claims on appeal is:

Hafner

US 6,716,409 B2

Apr. 6, 2004  
(filed Sep. 18, 2001)

Chiu

US 7,006,426 B2

Feb. 28, 2006  
(filed Dec. 18, 2001)

The Examiner rejected claims 15, 16, 18, and 20 to 25 under 35 U.S.C. § 102(e) based upon the teachings of Chiu.

The Examiner rejected claims 17, 26, and 27 under 35 U.S.C. § 103(a) based upon the teachings of Chiu.

The Examiner rejected claim 19 under 35 U.S.C. § 103(a) based upon the teachings of Chiu and Hafner.

## ISSUES

### *Anticipation*

Appellant argues that “[t]he Chiu reference neither explicitly nor inherently discloses ‘a reference optical element . . . and at least a first optical element attached to a predetermined structure of said etched structures’ as recited in independent claim 15” (App. Br. 4). Appellant additionally argues that “[t]he Chiu reference neither explicitly nor inherently discloses ‘wherein said etched structure is covered with a filling compound to change the index of refraction’ as recited in dependent claim 18” (App. Br. 8).

Based upon Appellant’s arguments, the issues before us are:

Has the Appellant rebutted the Examiner’s findings that Chiu describes a reference optical element and at least a first optical element attached to a predetermined structure of the etched structures as set forth in claim 15 on appeal?

Has the Appellant rebutted the Examiner’s findings that Chiu describes an etched structure covered with a filling compound to change the index of refraction as set forth in claim 18 on appeal?

*Obviousness*

Appellant argues that “[t]he Chiu reference neither explicitly nor inherently teaches ‘wherein said recess has a curved shape to at least partially conform to the convex shape of said reference optical element,’ as recited in dependent claim 26” (App. Br. 9). Appellant additionally argues that “[t]he Chiu reference neither explicitly nor inherently teaches ‘wherein said etched structure forms a cavity and wherein said reference optical element is located inside said cavity and the filling compound is used to fill said cavity,’ as recited in dependent claim 27” (App. Br. 10).

In view of Appellant’s arguments, the issues before us are:

Has the Appellant rebutted the Examiner’s findings that Chiu describes a recess that has a curved shape to at least partially conform to the convex shape of the reference optical element as set forth in claim 26 on appeal?

Has the Appellant rebutted the Examiner’s findings that Chiu describes a reference optical element located inside a cavity and a filling compound used to fill the cavity as set forth in claim 27 on appeal?

**FINDINGS OF FACT**

1. As indicated *supra*, Appellant describes and claims a multi-optical element device that comprises a reference optical element 10 mounted in a mounting system 300 that is formed by etching substrates to form a recess 60 that partially conforms to the shape of the reference optical element 10 when the reference optical element is attached to the substrates. The mounting system contains etched substrate(s) upon which at least a first optical element 510 is attached to the etched structures.

2. Chiu describes a multi-optical unit 40 integrated with a semiconductor chip 42 (Fig. 4; col. 2, ll. 54 to 59). The multi-optical unit 40 comprises a first lens element 12 (i.e., a reference optical unit) mounted onto an etched substrate 22 (i.e., a mounting system) via concave extensions 44 and 46 that rest in recesses 48 and 50 in the top surface of the etched substrate 22 (col. 1, l. 54 to col. 2, l. 6; col. 2, l. 59 to col. 3, l. 8). The etched substrate mounting system contains etched structures (i.e., the bottom surfaces of the etched substrate 22) that form surface structures for attaching mirror 80 (i.e., at least a first optical element) (col. 3, ll. 23 to 31; col. 4, ll. 5 to 18).

3. Hafner describes the use of EP19HT epoxy adhesive in nanotube technology (col. 11, ll. 1 to 25).

## PRINCIPLES OF LAW

### *Anticipation*

Anticipation is established when a single prior art reference discloses expressly or under the principles of inherency each and every limitation of the claimed invention. *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d 1342, 1347 (Fed. Cir. 1999); *In re Paulsen*, 30 F.3d 1475, 1478-79 (Fed. Cir. 1994).

### *Obviousness*

The Examiner bears the initial burden of presenting a prima facie case of obviousness, and the Appellant has the burden of presenting a rebuttal to the prima facie case. *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

## ANALYSIS

### *Anticipation*

As indicated *supra*, Appellant argues that Chiu does not teach a reference optical element as well as at least a first optical element attached to the mounting system.

We disagree with Appellant's argument. Chiu describes a reference optical element 12 mounted in recesses 48 and 50 of a mounting system 22 (FF 2). At least a first optical element 80 is attached to an etched surface of the mounting system 22 (FF 2).

In summary, the anticipation rejection of independent claim 15 is sustained because all of the limitations of claim 15 are found in the teachings of Chiu. *Atlas Powder Co. v. IRECO Inc.*, 190 F.3d at 1347; *In re Paulsen*, 30 F.3d at 1478-79. The anticipation rejection of claims 16, 20 to 22, 24 and 25 is likewise sustained because Appellant has not presented any patentability arguments for these claims apart from the arguments presented for claim 15.

The anticipation rejection of claims 18 and 23 is reversed because we agree with the Appellant's argument that the etched structure of mounting system 22 in Chiu is not covered with a filling compound to change the index of refraction. The only coating on mounting system 22 is the reflective thin film coating that forms mirror 80 (col. 2, ll. 32 to 41; col. 3, ll. 26 and 27).

### *Obviousness*

Turning to the obviousness rejection of claims 17 and 26, we find that Appellant has not presented any patentability arguments for these claims apart from the arguments presented for claim 15. Accordingly, we will

sustain the obviousness rejection of claims 17 and 26 because Appellant has failed to rebut the Examiner's prima facie case of obviousness.

Turning next to the obviousness rejection of claim 27, we will reverse this rejection because we agree with the Appellant's argument (App. Br. 10) that Chiu neither teaches nor would have suggested to one of ordinary skill in the art the use of a filling compound in either of the recesses 48 and 50.

Turning lastly to the obviousness rejection of claim 19, we find that Hafner does not cure the noted shortcoming in the teaching of Chiu. Thus, the obviousness rejection of this claim is reversed. *In re Oetiker*, 977 F.2d at 1445.

#### CONCLUSIONS OF LAW

Appellant has failed to establish that the Examiner erred in rejecting claims 15, 16, 20 to 22, 24, and 25 for anticipation because Chiu describes each and every limitation set forth in these claims.

Appellant has established that the Examiner erred in rejecting claims 18 and 23 for anticipation because Chiu does not describe the filling compound set forth in these claims.

Appellant has failed to establish that the Examiner erred in rejecting claims 17 and 26 for obviousness.

Appellant has established that the Examiner erred in rejecting claims 19 and 27 for obviousness because the applied references neither teach nor would have suggested to the skilled artisan the claimed filling compound.

#### ORDER

The anticipation rejection of claims 15, 16, 20 to 22, 24, and 25 is affirmed, and the obviousness rejection of claims 17 and 26 is affirmed. The

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anticipation rejection of claims 18 and 23 is reversed, and the obviousness rejections of claims 19 and 27 are reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED-IN-PART

tdl

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